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Summary Data From the National Inventory of Pharmacists: United States, 1978–79

By Gloria Kapantais, Office of Vital and Health Care Statistics Program

Supply of pharmacists

Between May 1977 and June 1979, the National Center for Health Statistics conducted an inventory of all licensed pharmacists in the United States. The data collection spanned 2 years in an effort to time each State's survey to correspond with its license renewal period for pharmacists.

Results from this survey indicate that there were 160,664 licensed pharmacists, of which 112,335 were known to be active in their profession, 20,912 were inactive, and the activity status of 27,417 was unknown (table 1). As seen in this table, the percent of active pharmacists decreases as age increases. For those under age 30, 95 percent were active, while only 47 percent of those 65 years and older were active. This trend occurs among both sexes, although at every age a smaller percent of licensed female pharmacists are active. Table 1 indicates that 21 percent of active pharmacists are under age 30, while 12 percent are age 60 and over. Therefore, there is a sufficient influx of young pharmacists into the profession to replace the older pharmacists who are most likely to be leaving the profession.

In table 2, the activity status for those pharmacists who did not report this information is imputed by apportioning the 27,417 pharmacists with unknown activity status into categories in the same ratio as among the pharmacists whose activity status is known. Of the resulting 135,449 active pharmacists, the largest number is located in the South (43,932). New England has the highest ratio of active pharmacists per 100,000 population (69.0), while the Pacific division has the lowest ratio (55.9).

In 1978–79, there were 18,115 known female pharmacists who were active in the profession, which accounts for 16 percent of the supply of active pharmacists of known sex (table 1). Nearly three-fourths (71 percent) of the female pharmacists were under age 40.

The distribution of the 112,335 known active pharmacists by age, race, and Hispanic origin is shown in table 3. Active minority pharmacists constituted about 5 percent of all practicing pharmacists. Nearly two-thirds of these minority pharmacists were oriental, and approximately one-third were black. In 1978–79, nearly 2 percent of the practicing pharmacists were of Hispanic descent.

Work setting

In table 4 it is shown that 72 percent of the known active pharmacists were employed in pharmacies. Of the three types of pharmacies specified in the survey, the independent community pharmacy employed the largest number (38,408), with chain pharmacies employing 28,423 pharmacists, and clinic or medical building pharmacies employing only 3,968 pharmacists. Hospitals employed about 20 percent of the pharmacists, while nursing homes employed a very small percent (1.6 percent). The remaining pharmacists were employed by pharmaceutical manufacturing companies, colleges of pharmacy, or other employers.

It is seen in table 5 that almost all (nearly 83 percent) women pharmacists are salaried (manager, assistant manager, or staff pharmacist), while two-thirds of male pharmacists are. Employment as a staff

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pharmacist is one of the forms of practice in which females are able to work part-time. This is the principal form of employment for 82 percent of the part-time female pharmacists.

Of the 112,335 pharmacists known to be active in their profession, half (52,129 or 50.8 percent) worked 36–45 hours a week (table 5). A larger percent of males worked 40 hours or more a week than females. As would be expected, the longest hours were worked by those pharmacists who were sole owners of their principal form of employment. Over 80 percent worked 46 or more hours a week.

Inactive pharmacists

A total of 20,912 known inactive pharmacists were surveyed, which was 16 percent of all licensed pharmacists in the survey (table 6). These pharmacists represent a potential source of manpower because they are trained and licensed and may at any time enter or return to the profession. In terms of potential pharmacist resources, 12 percent of the inactive pharmacists are seeking work in the profession. An additional 8 percent are homemakers. Less than half of the inactive pharmacists (45 percent) said they are inactive because they are retired.

The actual unemployment rate in the profession is less than 2 percent. That is based on the number of inactive pharmacists seeking work relative to the total number of licensed pharmacists. Licensed inactive pharmacists under 40 are usually in another field and are not seeking work in pharmacy, or are homemakers.

Additional data on the results of the 1978–79 national inventory of pharmacists will appear in a future *Vital and Health Statistics* publication.[1]

[1]National Center for Health Statistics, H. Davis: Characteristics of pharmacists: United States, 1978–79. *Vital and Health Statistics*. Series 14. Public Health Service, DHHS, Hyattsville, Md. To be published.

Symbols

- - -	Data not available
. . .	Category not applicable
-	Quantity zero
0.0	Quantity more than zero but less than 0.05
Z	Quantity more than zero but less than 500 where numbers are rounded to thousands
*	Figure does not meet standards of reliability or precision
#	Figure suppressed to comply with confidentiality requirements

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Table 1. Number and percent distribution of licensed pharmacists by sex and activity status, according to age: United States, 1978–79

Age	All licensed pharmacists				Male				Female				Sex unknown			
	Total	Active	Inactive	Unknown	Total	Active	Inactive	Unknown	Total	Active	Inactive	Unknown	Total	Active	Inactive	Unknown
							Number									
All ages	160,664	112,335	20,912	27,417	133,474	94,158	16,997	22,319	26,147	18,115	3,845	4,187	1,043	62	70	911
Under 30 years	24,975	23,604	1,371	-	16,644	15,931	713	-	8,318	7,664	654	-	13	9	4	-
30–39 years	35,580	32,264	3,316	-	29,337	27,085	2,252	-	6,223	5,160	1,063	-	20	19	1	-
40–49 years	25,769	23,096	2,673	-	25,569	23,544	2,025	-	3,185	2,540	645	-	15	12	3	-
50–59 years	21,454	19,059	2,395	-	18,976	17,155	1,821	-	2,465	1,896	569	-	13	8	5	-
60–64 years	7,127	5,649	1,478	-	6,525	5,251	1,274	-	600	397	203	-	2	1	1	-
65 years and over	16,867	7,844	9,023	-	15,832	7,501	8,331	-	989	342	647	0	46	1	45	-
Unknown	28,892	819	656	27,417	23,591	691	581	22,319	4,367	116	64	4,187	934	12	11	911
							Percent distribution									
All ages	100.0	84.3	15.7	...	100	84.7	15.3	...	100	82.5	17.5	...	100	47.0	53.0	...
Under 30 years	100.0	94.5	5.5	...	100	95.7	4.3	...	100	92.1	7.9	...	100	69.2	30.8	...
30–39 years	100.0	90.7	9.3	...	100	92.3	7.7	...	100	82.9	17.1	...	100	95.0	5.0	...
40–49 years	100.0	89.6	10.4	...	100	91.0	9.0	...	100	79.7	20.3	...	100	80.0	20.0	...
50–59 years	100.0	88.8	11.2	...	100	90.4	9.6	...	100	76.9	23.1	...	100	61.5	38.5	...
60–64 years	100.0	79.3	20.7	...	100	80.5	19.5	...	100	66.2	33.8	...	100	50.0	50.0	...
65 years and over	100.0	46.5	53.5	...	100	47.4	52.6	...	100	34.6	65.4	...	100	2.2	97.8	...
Unknown	100.0	55.5	44.5	...	100	54.3	45.7	...	100	64.4	35.6	...	100	52.2	47.8	...

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Table 2. Active pharmacists, U.S. resident population, and active pharmacists per 100,000 people, by geographic region and division: United States 1978–79

Geographic region and division	Active pharmacists, 1978–79[1]	U.S. resident population in thousands,[2] 1978	Active pharmacists per 100,000 people, 1978–79
Total	135,449	222,095	61.0
Northeast	31,426	49,244	63.8
New England	8,482	12,303	69.0
Middle Atlantic	22,944	36,942	62.1
North Central	35,695	58,538	61.0
East North Central	24,673	41,509	59.4
West North Central	11,022	17,028	64.7
South	43,932	73,003	60.2
South Atlantic	20,937	35,882	58.3
East South Central	8,845	14,395	61.4
West South Central	14,150	22,725	62.3
West	24,142	41,311	58.4
Mountain	7,064	10,746	65.7
Pacific	17,078	30,565	55.9
Foreign[3]	254	...	...

[1] Number of active pharmacists (112,335) adjusted to include corresponding proportion of pharmacists with unknown activity status (84.306 percent of 27,417 = 23,114 additional active pharmacists). Data entries increased proportionally.
[2] As of July 1. Data from U.S. Bureau of the Census: Preliminary estimates of the intercensal population of States: 1970 to 1980. Series 1. Washington.
[3] Includes pharmacists working in U.S. territories and foreign countries.

NOTE: See "Technical notes" for States included in each geographic region and division.

Table 3. Number and percent distribution of active pharmacists by age, according to race and Hispanic origin: United States, 1978–79

Race and Hispanic origin	Total	Age						
		Under 30 years	30–39 years	40–49 years	50–59 years	60–64 years	65 years and over	Unknown
All active pharmacists	112,335	23,604	32,264	23,096	19,059	5,649	7,844	819
White	90,422	18,683	26,299	18,564	15,436	4,637	6,638	165
Black	1,730	344	577	346	325	60	78	---
American Indian	144	33	42	25	30	7	7	---
Oriental	3,048	941	1,230	502	288	59	28	---
Other	94	27	42	10	12	1	2	---
Unknown	16,897	3,576	4,074	3,649	2,968	885	1,091	654
Hispanic origin								
All active pharmacists	112,335	23,604	32,264	23,096	19,059	5,649	7,844	819
Hispanic	1,671	368	480	399	313	49	61	1
Non-Hispanic	86,481	17,572	25,175	17,872	14,824	4,490	6,399	149
Unknown	24,183	5,664	6,609	4,825	3,922	1,110	1,384	669
		Percent distribution						
All active pharmacists	100.0	21.2	28.9	20.7	17.1	5.1	7.0	...
White	100.0	20.7	29.1	20.6	17.1	5.1	7.4	...
Black	100.0	19.9	33.4	20.0	18.8	3.5	4.5	...
American Indian	100.0	22.9	29.2	17.4	20.8	4.9	4.9	...
Oriental	100.0	30.9	40.4	16.5	9.5	1.9	0.9	...
Other	100.0	28.7	44.7	10.6	12.8	1.1	2.1	...
Hispanic origin								
All active pharmacists	100.0	21.2	28.9	20.7	17.1	5.1	7.0	...
Hispanic	100.0	22.0	28.7	23.9	18.7	2.9	3.7	...
Non-Hispanic	100.0	20.4	29.2	20.7	17.2	5.2	7.4	...

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Table 4. Number and percent distribution of active pharmacists by primary employment setting, according to age: United States, 1978–79

Primary employment setting	All active pharmacists	Age						
		Under 30 years	30–39 years	40–49 years	50–59 years	60–64 years	65 years and over	Unknown
	Number							
All settings	112,335	23,604	32,264	23,096	19,059	5,649	7,844	819
Independent community pharmacy	38,408	4,994	9,235	9,300	8,045	2,428	4,279	129
Chain pharmacy	28,423	7,755	9,086	5,439	3,993	1,063	990	97
Clinic or medical building pharmacy	3,968	835	1,242	814	647	179	245	8
Hospital	19,603	6,305	6,980	2,743	2,320	649	538	67
Nursing home	1,551	447	458	270	185	61	128	2
Pharmaceutical manufacturer	2,476	206	682	775	582	158	67	6
College of pharmacy	1,288	294	457	224	217	56	36	4
Other	2,554	349	718	653	527	162	138	6
Unknown	14,063	2,419	3,407	2,878	2,543	895	1,423	500
	Percent distribution							
All settings	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...
Independent community pharmacy	39.1	23.6	32.0	46.0	48.7	51.1	66.7	...
Chain pharmacy	28.9	36.6	31.5	26.9	24.2	22.3	15.4	...
Clinic or medical building pharmacy	4.0	3.9	4.3	4.0	3.9	3.8	3.8	...
Hospital	19.9	29.8	24.2	13.6	14.0	13.7	8.4	...
Nursing home	1.6	2.1	1.6	1.3	1.1	1.3	2.0	...
Pharmaceutical manufacturer	2.5	1.0	2.4	3.8	3.5	3.3	1.0	...
College of pharmacy	1.3	1.4	1.6	1.1	1.3	1.2	0.6	...
Other	2.6	1.6	2.5	3.2	3.2	3.4	2.1	...

Table 5. Number of active pharmacists and total hours worked per week, by principal form of employment and sex: United States, 1978–79

Principal form of employment and sex	All active pharmacists	Total hours			
		1–35	36–45	46 and over	Unknown
Total	112,335	13,453	52,129	37,049	9,704
Male	94,158	8,323	42,727	35,193	7,855
Female	18,115	5,128	9,341	1,855	1,791
Unknown	62	2	1	1	58
Sole owner	16,490	541	2,420	13,111	418
Male	16,069	483	2,330	12,855	401
Female	421	58	90	256	17
Unknown	---	---	---	---	---
Partner	9,458	591	2,654	6,045	168
Male	8,984	444	2,534	5,854	152
Female	474	147	120	191	16
Unknown	---	---	---	---	---
Manager[1]	30,808	1,417	18,716	10,262	413
Male	27,277	1,019	16,227	9,671	360
Female	3,531	398	2,489	591	53
Unknown	---	---	---	---	---
Staff pharmacist	41,152	9,600	25,297	5,020	1,235
Male	29,711	5,396	19,038	4,398	879
Female	11,440	4,204	6,259	622	355
Unknown	1	---	---	---	1
Other[2]	5,962	976	2,486	2,230	270
Male	5,191	735	2,166	2,055	235
Female	771	241	320	175	35
Unknown	---	---	---	---	---
Unknown	8,465	328	553	381	7,200
Male	6,926	246	492	360	5,828
Female	1,478	80	63	20	1,315
Unknown	61	2	1	1	57

[1] Includes assistant manager.
[2] Includes volunteers.

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Table 6. Number of inactive pharmacists and reason for inactivity, by sex and age: United States, 1978

Sex and age	All inactive pharmacists	Retired	Unemployed		Working in other field		Homemaker	Other	Unknown
			Seeking work in pharmacy	Not seeking work in pharmacy[1]	Seeking work in pharmacy	Not seeking work in pharmacy			
Total	20,912	7,879	1,469	272	576	4,587	1,397	1,322	3,410
Under 30 years	1,371	9	247	72	70	263	224	267	219
30–39 years	3,316	17	281	54	148	1,510	553	304	449
40–49 years	2,673	56	218	52	126	1,278	300	235	408
50–59 years	2,395	305	257	43	126	875	214	247	327
60–64 years	1,478	663	131	15	36	268	41	120	204
65 years and over	9,023	6,403	326	35	68	313	52	138	1,688
Unknown	656	425	9	1	2	80	13	11	115
Male	16,997	7,282	1,045	194	476	4,187	35	1,033	2,745
Under 30 years	713	7	118	46	49	203	3	167	120
30–39 years	2,252	11	154	34	128	1,396	8	220	301
40–49 years	2,025	41	141	35	106	1,196	4	194	308
50–59 years	1,821	249	197	33	98	783	5	214	242
60–64 years	1,274	601	117	11	32	240	2	104	167
65 years and over	8,331	5,984	310	34	62	292	12	127	1,510
Unknown	581	389	8	1	1	77	1	7	97
Female	3,845	586	424	78	99	400	1,362	289	607
Under 30 years	654	2	129	26	21	60	221	100	95
30–39 years	1,063	6	127	20	20	114	545	84	147
40–49 years	645	15	77	17	20	82	296	41	97
50–59 years	569	56	60	10	28	92	209	33	81
60–64 years	203	62	14	4	4	28	39	16	36
65 years and over	647	415	16	1	6	21	40	11	137
Unknown	64	30	1	---	---	3	12	4	14

[1] In a few States, this was phrased as "in training in pharmacy."
[2] Includes 70 inactive pharmacists with sex unknown.

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Technical notes

Source of data

The 1978-79 national inventory of pharmacists was conducted through two separate but parallel mechanisms. The first was the Cooperative Health Statistics System (CHSS).[2] Those States with a CHSS manpower component contract collected data on pharmacists and submitted to the National Center for Health Statistics a specified set of data elements, using standardized processing specifications. The second data collection mechanism was for the remaining 28 non-CHSS States (including the District of Columbia). It utilized a single contractor, the American Association of Colleges of Pharmacy (AACP), to collect the same data items as the CHSS States. Similar data collection methodologies were used by both the CHSS State contractors and the AACP to insure uniformity of the data, which permitted the statistics from both mechanisms to be merged into a single national data file.

Because pharmacists were surveyed and counted in each State in which they were licensed, a mechanism had to be developed to remove duplicate counts resulting from multiple licensure. The total number of pharmacist records prior to the removal of duplicate and multiple records was 207,169. The procedures developed for removing duplicate records and for producing a national data file in which each pharmacist is counted only once have been described in detail in another publication.[3] After the removal of duplicates, a total of 160,664 records remained, one for each licensed pharmacist, regardless of the number of States in which a pharmacist holds licenses.

The questionnaire mailout spanned 2 years, in order to coordinate the mailings with the license renewal period of each State. States not only stagger their license renewal dates at varying times of the year but some also have biennial instead of annual renewal cycles. In all States the contractor (either the AACP or CHSS State agency) worked with the State licensing board to send the questionnaires to all licensed pharmacists.

Although the data from this survey are labeled as 1978–79, it should be noted that only 88 percent of the States collected data during these years. The remaining data were collected during 1977 or 1980. The *Vital and Health Statistics* series report on this survey will give the particular year of the data from each State.[1]

Response rate

The overall questionnaire response rate was 84 percent. In some CHSS States information that was a part of the survey questionnaire was already available in State licensing board records and therefore did not have to be asked. In the case of nonrespondents this information was provided directly from the existing records. This resulted in records of nonrespondents containing data that otherwise would be missing. When data are available on nonrespondents, they are used in this report without distinction for response status.

Adjustment for item nonresponse

Imputations for selected item nonresponse were performed on those records containing sufficient other data permitting such computations. The following selected items were imputed: year of birth, year of graduation, sex, Hispanic origin, academic degree held in pharmacy, and activity status.

Definitions

Practice settings are defined as follows:

- Chain pharmacy: small- or large-chain community pharmacy.
- Hospital: Government or other hospital.

Active pharmacists are placed in their work State. When work State was missing from a record, the following hierarchy was used for determining the State in which to place the pharmacist: (1) residence State when it equaled mail State, (2) licensure State when it equaled residence or mail State, (3) mail State, and (4) licensure State.

Inactive pharmacists are placed in their residence State. Mail State is used when data on residence State are missing. If both States are missing, licensure State is used.

Geographic region and division are defined as follows:

Geographic region and division	*States included*
Northeast	
New England	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut
Mid Atlantic	New York, New Jersey, and Pennsylvania
North Central	
East North Central	Ohio, Indiana, Illinois, Michigan, and Wisconsin
West North Central	Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas

[2]National Center for Health Statistics: The Cooperative Health Statistics System: Its mission and program. *Vital and Health Statistics.* Series 4-No. 19. DHEW Pub. No. (HRA) 77–1456. Health Resources Administration. Washington. U.S. Government Printing Office, Apr. 1977.

[3]National Center for Health Statistics, Ronald Biggar: Procedures for unduplication of pharmacy and optometry data. Working Paper Series. No. 9. Feb. 1982.

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Geographic region and division—Con.	*States included—Con.*
South	
South Atlantic	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida
East South Central	Kentucky, Tennessee, Alabama, and Mississippi
West South Central	Arkansas, Louisiana, Oklahoma, and Texas
West	
Mountain	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada
Pacific	Washington, Oregon, Alaska, California, and Hawaii

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